

CHEA -- U.S. Patent Appln. No. 09/584,094

Attorney Docket No.: 081831-0258174- Amendment -**IN THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. – 13. *(Previously Cancelled).*

14. *(Previously Amended)* The system of claim 15, wherein the communications link comprises at least one of unshielded twisted pair cable, coaxial cable, and fiber optic cable.

15. *(Currently Amended)* A system comprising:

a driver device adapted to transmit a data signal, the data signal having transmission rates at least as high as 44.736 Mbps;

a communications link coupled to the driver device and the receiver device, the data signal being susceptible to distortions of phase and amplitude during transmission across the communications link, the communications link being at least 18,000 feet long; and

a receiver system adapted to receive, regenerate and transmit the data signal, the receiver system including:

a receiver device adapted to receive the potentially distorted data signal from the communications link, and

a processor electrically coupled to the receiver device and adapted to receive the distorted data signal from the receiver device, regenerate the data signal to compensate for the effects of the communications link on the data signal, and output the regenerated data signal, wherein the processor includes:

(a) a decoding mechanism configured to:

(i) produce a corrected data signal from the received distorted data signal,

(ii) split the corrected data signal into component data signals,

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(iii) generate a data clock reference signal based on the received distorted data signal and a clock reference signal substantially matching a transmission rate of the received distorted data signal, and

(iv) convert said component data signals into digital component data signals synchronized to said data clock reference signal, and

(b) an encoding mechanism configured to:

(i) receive said digital component data signals synchronized to said data clock reference signal;

(ii) convert said synchronized digital component data signals as output signals; and

(iii) transmit at least one of the output signals as the regenerated data signal.

16. *(Original)* The system of claim 15, wherein the receiver system further comprises a driver device electrically coupled to the processor and adapted to transmit the regenerated data signal to a subscriber.

17. *(Original)* The system of claim 15, wherein the receiver system further comprises a driver device electrically coupled to the processor and adapted to transmit the regenerated data signal to a central node.

18. *(Previously Amended)* The system of claim 15, wherein the data signal comprises digitally encoded data signal.